

REMARKS

Status of Claims:

Claims 1-19 were and are currently pending in this application.

Rejection Under 35 U.S.C. § 103:

On page 2 of the Office Action, Claims 1-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over applicant's admitted prior art (APA) in view of Lim (U.S. 5,995,851).

The examiner's rejections are respectfully traversed.

Applicant has amended independent claim one to recites:

1. (Currently Amended) A signal processor, comprising:
 - a signal processing unit covered with a vacuum insulation layer in a vacuum vessel;
 - a cooling mechanism that cools said signal processing unit;
 - a getter material of a heat-activation type that controls increase of gas pressure inside said vacuum insulation layer;
 - a heater that heats to activate said getter material, and;
 - an electrification controller for supplying electric power to said cooling mechanism and to said heater and operative such that whenever power is supplied to said electrification controller after a power interruption condition, said electrification controller always first supplies power to said heater and thus switching said heater ON in advance before supplying power to said cooling mechanism.

As may be seen from the underlined portions of the claim set forth above, applicant's claims has been amended to clarify that the electrification controller supplies power to the cooling mechanism and the heater and is operative such that whenever power is supplied to said electrification controller after a power interruption condition, said electrification

controller always first supplies power to said heater and thus switching said heater ON in advance before supplying power to said cooling mechanism. Support for these limitations may be found, *inter alia*, on page 13 beginning at line 27 of applicant's specification as filed.

The Examiner recognizes that "the Applicant's APA fails to teach that the controller switches ON the heater in advance before cooling begins."

However, the Examiner asserts that Lim teaches such features (see Fig. 6b, cooling portion 40, transistors DQ3-DQ6, col. 5, ln. 35-46, col. 8, lin. 23-54, col. 9, In. 1-31, col. 10, In. 1-25. For example, the controlling portion 40 will detect the temperature inside the container 100, if the temperature drops below the preset temperature range, both transistors DQ4 and DQ5 are turned ON to operate the heating mode. When the heating mode is on the temperature of signal processing will start to rise, the controlling portion 40 will detect temperature inside the container 100, if the temperature goes over the preset temperature range then both transistors DQ3 and DQ6 are turned ON to operate the cooling mode).

The Applicant traverses respectfully.

Lim teaches that if the temperature drops below the preset temperature range, both transistors DQ4 and DQ5 (making up a cooling portion) are turned on to operate the heating mode in order to heat a metal plate 20 serving as a cooling stage, whereas if the temperature goes over the preset temperature range then both transistors DQ3 and DQ6 (making up a cooling portion) are turned on to operate the cooling mode in order to cool the metal plate 20 serving as the cooling stage). Thus, the measured temperature of the metal plate (serving as the cooling stage) 20 is adjusted so as to be kept within the preset temperature range.

In contrast, a signal processor of the claimed invention provides with a heater for heating and activating a getter material of a heat-activation type, which is used to control an increase of gas pressure inside said vacuum insulation layer.

The heater of the claimed invention is not used to adjust a temperature of a cooling stage.

With the configurations of the claimed invention, a gas pressure inside a vacuum insulation layer can be reduced before the cooling of the refrigerator by electrifying the heater in advance before cooling begins, or by electrifying the heater when cooling begins and electrifying the cooling mechanism after the predetermined condition is established, even in a case where the cooling mechanism is activated after the cooling mechanism has been stopped due to a power outage or a like, or in a case where the cooling mechanism is activated after it has been stored in an ambient temperature for a long period of time after a vacuum sealing, and thus cooling by the cooling mechanism can be performed. Moreover, since electrification to the heater and electrification when activating the cooling mechanism do not occur simultaneously, power supplied to the signal processor may be reduced.

Therefore, with an outdoor receiver system of Lim, if the temperature inside the container 100 goes over the preset temperature range, a cooling portion 40 is turned ON to operate the cooling mode. In contrast, with the configuration of the claimed invention, even if the temperature in a vacuum vessel goes over the preset temperature range, an electrification controller always first supplied power to the heater and switches the heater ON in advance before power to the cooling mechanism.

Further, the heater of Lim is used to heat a metal plate (cooling stage) 20, whereas a heater of the claimed invention is used to activate a getter material.

Thus, the heater of Lim is placed in a manner to contact a metal plate (cooling stage) 20, whereas a heater of the claimed invention is placed in a manner not to contact the cooling stage 8.

The recitation of the amended claims are NOT disclosed in applicant's APA nor in the secondary reference of Lim. As such, it is thus submitted that the PTO has not made out a *prima facie* case of obviousness under the provisions of 35 U.S.C. § 103, and thus applicants claim 1 is patentable over the prior art.

Similar limitations as discussed above in connection with claim 1 have been made to all of applicant's independent claims (with appropriate formal changes to accommodate the method claims). Thus, It is thus submitted that the PTO has not made out a *prima facie* case

of obviousness under the provisions of 35 U.S.C. § 103, and thus ALL of applicants claims are patentable over the prior art.

Applicant's dependent claims are deemed patentable at least by virtue of their dependency.

Conclusions:

Applicant respectfully requests reconsideration and withdrawal of the rejections of Claims 1-19.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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